

Discussion on Metadata Usage



Session Leader: Lola Olsen (NASA GCMD)
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Objective of Session


1. Understand how people (and machines?) use metadata
2. Distinguish among the types of metadata
3. Recognize user needs
4. Understand management needs

The end goal should be a best practices document that can be utilized by the federal agencies.

How Do You Use Metadata?

- To describe data
- To find data
- To understand data
- To help others understand your data
- To exchange between machines (web services)

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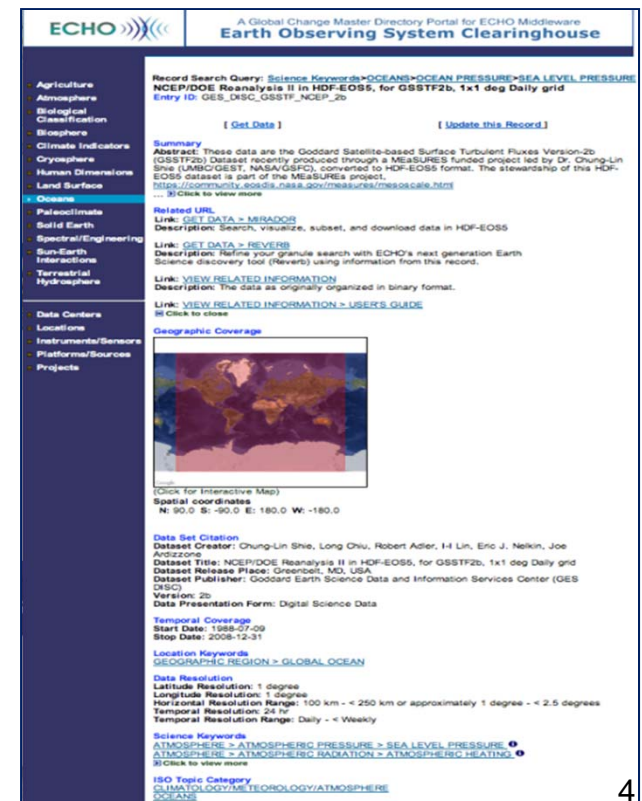


ECHO

Call API to Retrieve Entry_ID list



GCMD



Distinguish Between the Types of Metadata



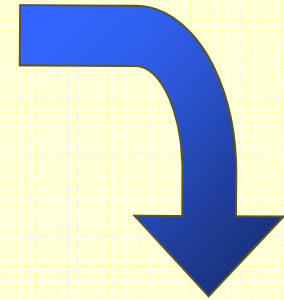
What are the Needs of a Metadata User?

- Discover data sets
- Have direct links to data
- Document data sets
- Have effective metadata authoring tools
- Others???

Metadata Submission/Lifecycle (docBUILDER)

Metadata Author

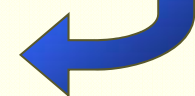
Validate and Submit



Import to Queue

ID	Sender	Status	Date	Identifier	Operation	Count	Time In	Time Completed	On Status Item Date
00110100gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011100gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011200gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011300gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011400gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011500gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011600gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011700gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011800gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0011900gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012000gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012100gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012200gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012300gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012400gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit
0012500gcm	DOCMD	Success	2008-01-23 15:15	gov.noaa.nc	Insert	1	2008-01-23 15:15	2008-01-23 15:15	Accepted Commit

Review (QA/QC) Metadata



Load in Database

Science Coordinator

Write/Update Metadata

Retrieve from Database to Update

Metadata Submission/Lifecycle (Harvest)




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Harvester Setup and Status

Setup

Add a harvest to get metadata XML files from OAI data providers. If only providing metadata files, harvester setup is not necessary.

[Add new harvest...](#) Create a harvest to get files and to specify within and where the harvest is performed.

Harvest Repository	Metadata Format	SetSpec	Harvest Interval	Manually Harvest	Harvest Settings
NCAR DSS Base URL Harvested to: User\ntunnicliffe_joi View harvest history and progress	oai_dc	-	Manual	Next All	Edit Delete
NPOLAR Base URL Harvested to: User\calfrank\metabapps http://gcmd.ncd/WEB-INF/harvest_records http://gcmd.ncd/WEB-INF/harvest_records 13:17:14 EDT 2009 Download zipped harvest Moat recent View harvest history and progress	oai_dc	IPVNO	Manual	Next All	Edit Delete
ORNL Base URL Harvested to: C:\Documents and Settings\steven.GSP\CMC Documents\ORNL_Harvest_New_Harvest Last harvest: 546 files - Wed Feb 25 Download zipped harvest Moat recent Order Close View harvest history and progress	oai_dc	-	Manual	Next All	Edit Delete

Harvest Metadata (FTP, OAI-PMH, WAF)

Update

Load in Database

Import to Queue

Review (QA/QC) Metadata

Science Coordinator

GCMD: DIF to ISO Translation

- Translation of collection level metadata is performed through an XSLT.
- Coded by Dave Connell (Australian Antarctic Data Centre) and Andy Townsend (Australian Antarctic Data Centre).
- <http://data.aad.gov.au/aadc/metadata/difconvert/DIF-ISO.xsl>

GCMD: DIF to ISO Translation

- GCMD DIF metadata extracted from the GCMD collection and translated to ISO-19115 daily.
- ISO metadata is indexed in the International Directory Network (IDN) Catalog Services for the Web (CS-W) server.

GCMD: IDN CSW Server

- Runs GeoNetwork CS-W open-source Catalogue.
- Follows the OGC OpenGIS Catalogue Services Specification.

GCMD: CSW URLs

- Production:

- <http://gcmdsrv1.gsfc.nasa.gov:8080/geonetwork/srv/en/main.home>

- Failover:

- <http://gcmdsrv2.gsfc.nasa.gov:8080/geonetwork/srv/en/main.home>

- Testing:

- <http://gcmdsrv3.gsfc.nasa.gov:8080/geonetwork/srv/en/main.home>

GCMD: CSW Partners

- GEOS/CI - Global Earth Observation System of Systems
Common Infrastructure
- CEOS/CWIC - Committee on Earth Observation Satellites
WGISS Integrated Catalog
- EURO-GEOS - European approach to GEOS
- Climate.gov - NOAA Climate Services Climate.gov (New
Partner)

How will the GCMD Support ISO?

Option1:

Replace the DIF with ISO in the GCMD system.

Recognized by NASA's Standards Processing Group as a NASA standard.

Used by scientists and data centers worldwide.

Plain-language fields make it more likely scientists will document their data.

How will the GCMD Support ISO?

Option2:

Implement a DIF-ISO Profile

Scientists can continue to document their data using the core DIF fields with the option to populate ISO fields not available in the DIF.

ISO metadata can be imported and exported from the GCMD without loss of information.

GCMD “key-value-pair” feature will permit users to imbed fields not offered by the DIF or ISO.

DIF-ISO Profile Example

Example of the DIF/Related URL field in DIF-ISO Profile

```
<gmd:onLine>
  <gmd:CI_OnlineResource>
    <gmd:linkage>
      <gmd:URL>http://edcsns17.cr.usgs.gov/EarthExplorer/</gmd:URL>
    </gmd:linkage>
    <gmd:protocol>
      <gco:CharacterString>WWW:LINK-1.0-http--link</gco:CharacterString>
    </gmd:protocol>
    <gmd:name>
      <gco:CharacterString>GET DATA</gco:CharacterString>
    </gmd:name>
    <gmd:description>
      <gco:CharacterString>
        Query and order satellite images, aerial photographs, and cartographic products
        through the U.S. Geological Survey. Log in as a guest or as a registered user.
        Registered users have access to more features than guests do. If you plan on using
        EarthExplorer frequently, you may wish to register. Please note that this site uses
        Session Cookies and Java applets.
      </gco:CharacterString>
    </gmd:description>
  </gmd:CI_OnlineResource>
</gmd:onLine>
```

Key-Value-Pair Example



Extended Metadata :

Extended Metadata

  Metadata

Name Space	<input type="text" value="gov.nasa.gsfc.gcmod"/>
Name	<input type="text" value="Portal"/>
Value	<input type="text" value="AMD/AU"/>

  Metadata

Name Space	<input type="text" value="gov.nasa.gsfc.gcmod"/>
Name	<input type="text" value="funded_by"/>
Value	<input type="text" value="NOAA"/>



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What Are the Metadata Needs of Management?

- Metadata interoperability among agencies
- Contribution mandates
 - Data.gov, GEOSS, GCMD, ECHO, Mercury
- Funding metadata activities